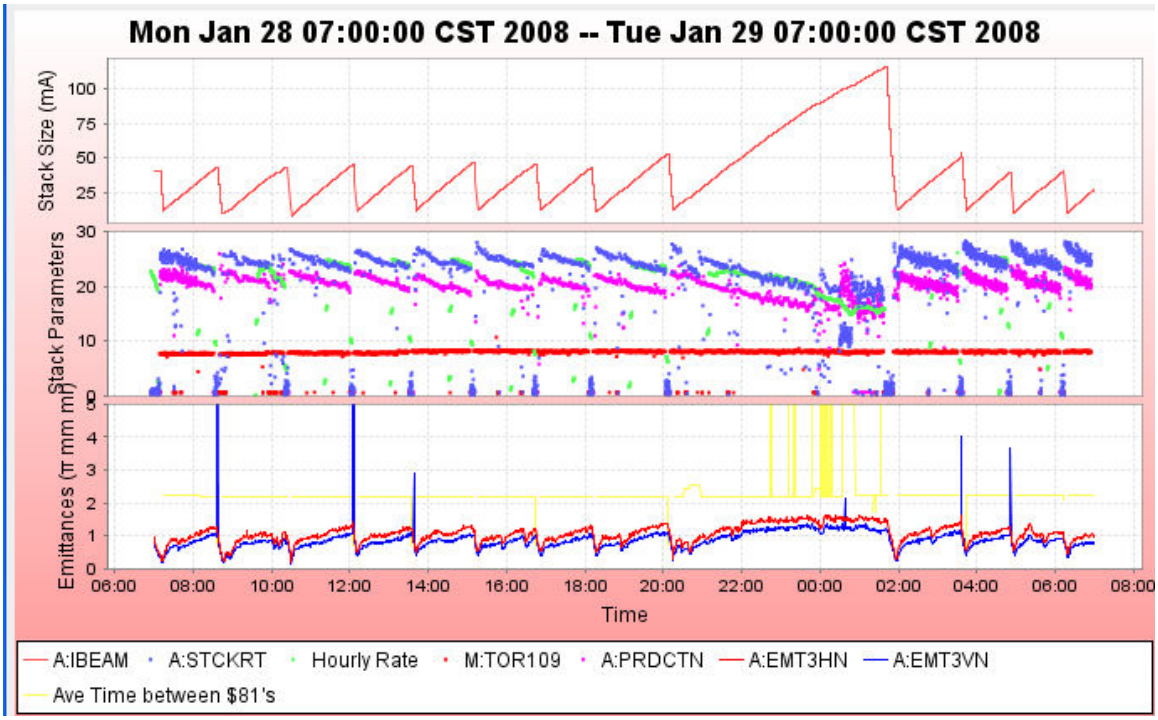
2008-01-29 Pbar Morning Notes

Monday, January 28, 2008
3:04 PM

Stacking

- 11 turns beam on target increased from 7e12 at the start of the day shift to over 7.5e12 by early afternoon. We ran consistently at 7.5e12 overnight and took advantage of this. Slip stacking efficiency was up from 83 to 87%!
- Our best hour of stacking happened on the owl shift as was 24.69 mA/hr, which ties our record set on January 8th.
- We also stacked 490.18 E10.
- Average Production 16.36 e-6/proton, brought down by one iteration of stacking to 116mA.
- The crews ran the flusher once we got over 100mA.



Transfers

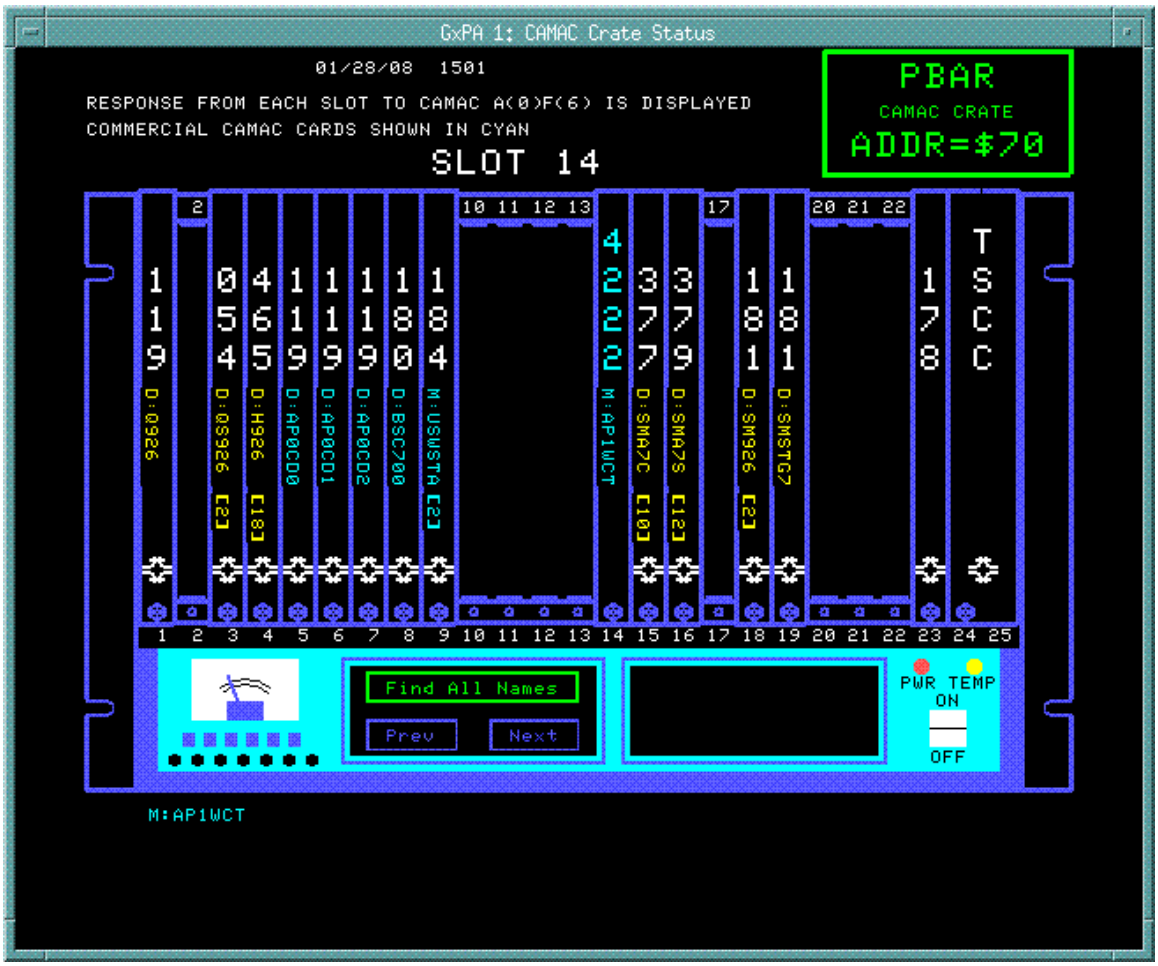
- We unstacked 504mA to the Recycler in 42 transfers in 13 sets.
- The overall Accumulator to MI efficiency was 97%
- The overall Accumulator to Recycler efficiency was 96%
- Problems:
  - Transfer 7002 had 0's for I:BEAMS
  - Transfer 7006 had a 0 on the first transfer and a overly large nubmer on the last transfer.
  - 7000, 7003, 7005

Column 1 Pbar Transfer Shot #	Column 2 Recycler Shot #	Column 4 Transfer Time		Column 21 A:IBEAMB sampled on $91 (A:IBEAM1), E10	Column 22 A:IBEAMB sampled on $94 (A:IBEAM2), E10	Unstacked (mA)	Column 23 R:BEAMS (R:BEAM E0[0]) pre xfer E10	Column 24 R:BEAM (R:BEAM E0[1]) post xfer, E10	Stashed	Acc to RR Eff	Column 27 MI DCCT SMALL BEAM (I:BEAMS), E10	Column 28 MI Before Extraction (I:BEAM6), E10	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets
		1/29/2008	7:00:00 AM			504.400			483.19	0.96	3419.142	487.233	677.86%	96.60%	42	13
7006	4469	Tuesday, January 29, 2008	6:13:39 AM	40.188	10.188	30.000	174.791	203.470	28.68	0.96	3063.303	29.500	########	98.33%	3	1
7005	4468	Tuesday, January 29, 2008	4:51:46 AM	39.388	10.588	28.800	149.081	175.882	26.80	0.93	17.642	27.284	61.26%	94.74%	3	1
7004	4467	Tuesday, January 29, 2008	3:37:52 AM	50.388	11.988	38.400	114.455	149.861	35.41	0.92	37.117	36.929	96.66%	96.17%	3	1
7003	4466	Tuesday, January 29, 2008	1:43:09 AM	115.988	12.188	103.800	24.110	116.015	91.91	0.89	64.087	98.284	61.74%	94.69%	7	1
7002	4464	Monday, January 28, 2008	8:08:52 PM	53.188	12.588	40.600	396.097	437.328	41.23	1.02	0.000	39.646	0.00%	97.65%	3	1
7001	4463	Monday, January 28, 2008	6:11:44 PM	43.588	11.188	32.400	371.975	405.084	33.11	1.02	31.760	30.558	98.02%	94.31%	3	1
7000	4462	Monday, January 28, 2008	4:46:00 PM	45.788	12.388	33.400	344.107	377.997	33.89	1.01	12.772	31.903	38.24%	95.52%	3	1
6999	4461	Monday, January 28, 2008	3:10:02 PM	46.988	12.188	34.800	314.721	349.086	34.37	0.99	33.794	33.670	97.11%	96.75%	3	1
6998	4460	Monday, January 28, 2008	1:35:43 PM	44.588	11.788	32.800	287.025	319.253	32.23	0.98	31.830	32.429	97.04%	98.87%	3	1
6997	4459	Monday, January 28, 2008	12:05:29 PM	45.388	11.587	33.801	257.977	290.660	32.68	0.97	32.961	32.068	97.51%	94.87%	3	1
6996	4458	Monday, January 28, 2008	10:25:13 AM	42.988	8.588	34.400	227.584	261.349	33.77	0.98	34.103	33.741	99.14%	98.08%	3	1
6995	4457	Monday, January 28, 2008	8:37:46 AM	43.388	10.188	33.200	197.686	229.640	31.95	0.96	32.234	33.332	97.09%	100.40%	3	1
6994	4456	Monday, January 28, 2008	7:11:02 AM	39.787	11.788	27.999	171.448	198.625	27.18	0.97	27.539	27.889	98.36%	99.61%	2	1

Studies Completed

Requests

- Debuncher Cooling
  - Characterize - 1 hr of greatly diminished stacking
  - Trombone changes
  - Characterize again - another 1 hr.
  - The cooling characterizations require a long cycle time (maybe as long as 8 seconds), and greatly diminished stacking (only one band of the Momentum cooling is on during these measurements). May not be compatible with SY120.
  - **The Run Co would like to wait until later in the week to complete this work.**
- May want to circulate the last pulse in the Debuncher.
  - If the last pulse is at 6am, we would
  - DVM will provide instructions to Stan Johnson, who will make sure the owl crew knows what to do.
    - Basically, an aggregate is run to set everything up.
    - We do not go into Standby.
    - Steve Werkema will check in before 6am to make sure there are no problems.
    - Steve Werkema and Ralph Pasquinelli will do studies with the circulating Debuncher beam.
    - DVM will revert from this mode and put us in Standby after the studies are done.
- Cycle Debuncher busses
  - Line up with 20 minutes of downtime.
- Rupe requests to put in a C183 card in Pbar Crate 70 slot 20 (AP0). This is to provide on/off control for the PBKICK front end.
  - Worklist entry: http://www-ad.fnal.gov/cgi-worklist/worklist_form.pl?id=7444
  - Also in the crate:
    - Slot 1: C119 for D:Q926

        - Slot 4: C465 for D:H926
        - Slot 5: C119 for D:AP0CD0
        - Slot 6: C119 for D:AP0CD1
        - Slot 7: C119 for D:AP0CD2
        - Slot 8: C180 for D:BSC700
        - Slot 9: C184 for M:USWSTA, M:USWSTB
    - Rupe can do this change live.
    - We would need to have Ops do a crate save in case the crate is glitched.
    - **We will tentatively schedule this work for tomorrow during the MI access period.**
- 

Other Notes

- Owl Crew Feedback
    - Stacktail Monitor crashed for unknown reasons, but restart without any problems.
    - When we run the Flusher, crews would like a way to set back the ARF2 frequency
- Paul's Numbers
    - Most in an hour: 24.69 mA at Tue Jan 29 04:43:04 CST 2008
    - Best: 24.90 mA on 24-Jan-08
    - Average Production 16.36 e-6/proton Best: 23.53 e-6/proton on 11/11/2007
    - Average Protons on Target 6.97 e12 Best: 8.77 e12 on 07/24/2007
    - Largest Stack .00 mA Best: 271.01 mA on 11/14/2007
- Al's Numbers (07:00 to 07:00)
    - Stacking
        - Pbars stacked: 490.18 E10
        - Time stacking: 22.09 Hr
        - Average stacking rate: 22.19 E10/Hr

- Average stacking rate: 22.19 E10/Hr
- Uptime
  - Number of pulses while in stacking mode: 35535
  - Number of pulses with beam: 34181
  - Fraction of up pulses was: 96.19%
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 21.25 Hr
  - Possible average stacking rate: 23.07 E10/Hr
- Recycler Transfers
  - Pbars sent to the Recycler: 474.72 E10
  - Number of transfers : 40
  - Number of transfer sets: 12
  - Average Number of transfer per set: 3.33
  - Time taken to shoot: 01.67 Hr
  - Time per set of transfers: 08.35 min
  - Transfer efficiency: 99.05%
- Other Info
  - Average POT : 7.38 E12
  - Average production: 19.44 pbars/E6 protons